

Burden of Tobacco Report: Additional Technical Notes

This report estimates the burden of cigarette smoking using the most current version of the Centers for Disease Control and Prevention's Smoking Attributable Mortality, Morbidity and Economic Costs (SAMMEC) software program. The software program estimates the number of deaths caused by cigarette smoking for 18 specific diseases and the number of years of life lost due to premature death from cigarette smoking. The program also estimates the economic costs of cigarette smoking, in terms of direct health care costs and costs due to lost productivity.

Smokers in Wisconsin

County smoking prevalence estimates are based on data from several sources. State and county adult prevalence data are from 1996-2000 Behavioral Risk Factor Surveillance System data. Smoking prevalence is based on two questions measuring whether a respondent is a current smoker. A current smoker is defined as having smoked 100 cigarettes in a lifetime and currently smoking cigarettes on some or every day. For this section of the report, sample sizes were large enough to publish county-specific prevalence data for 20 Wisconsin counties. Forty-six counties were grouped into small clusters to obtain prevalence estimates for these areas. These estimates were then used to approximate the county prevalence. In the case of 6 Wisconsin counties, larger regions were grouped (based on Wisconsin's five public health regions) and prevalence estimates from these regions were used because of sample size limitations. For both the state and each Wisconsin county, adult prevalence estimates were multiplied by the number of adults over 18 years old to estimate the number of adult smokers in Wisconsin and in each county.

Data on youth smoking are from the 2001 Youth Risk Behavioral Survey and the 2001 Wisconsin Youth Tobacco Survey. Overall prevalence data are only available as statewide estimates. These statewide estimates were multiplied by both the number of youth in Wisconsin and each county to estimate the number of youth smokers in the state and county.

Maternal smoking data are from 2000 birth certificates. Wisconsin's birth certificates include a question asking whether the mother smoked cigarettes during her pregnancy. The percentage of 'Smoking during Pregnancy' is the number of women who indicated (either self-report or reported by a health care provider) that they did smoke during their pregnancy divided by the number of women who had a live birth in 2000. The number and percentage of women who smoked during pregnancy is reported for each Wisconsin county.

Health Impact of Cigarette Smoking

The SAMMEC software program estimates the number of deaths due to cigarette smoking, also known as smoking-attributable mortality, using current and former cigarette smoking prevalence estimates, previously published relative risk estimates and mortality data. To estimate overall current and former smoker prevalence estimates for each county and region in Wisconsin, combined Behavioral Risk Factor Surveillance System data from 1996-2000 were used. A current smoker is defined above, while a former smoker is defined as smoking 100 cigarettes in a lifetime and not currently smoking. The SAMMEC program uses relative risk estimates from the second wave of the American Cancer Society's Cancer Prevention Study (CPS-II) for adult deaths. Mortality data are from 1996-2000 Wisconsin death certificates.

The SAMMEC software program requires prevalence data be stratified into age and gender subgroups to account for the differences in risk of developing a smoking-related illness. For most Wisconsin counties, overall smoking prevalence rates are available from the Behavioral Risk Factor Surveillance System (1996-2000) for both current and former smokers. Due to small sample sizes, county rates cannot be split into the necessary age and gender subgroups required by the SAMMEC software program. Regional prevalence data by age and gender subgroups (from each of Wisconsin's five public health regions) were used to approximate county prevalence estimates for these subgroups. To account for differences in smoking rates between the county and the region, the overall county smoking prevalence estimate was divided by the regional smoking prevalence estimate to obtain a county to region prevalence ratio. This ratio was then multiplied by each regional prevalence subgroup (e.g., current smoking rate among males, 35-64 years old) to obtain a county adjusted prevalence estimate. For example, the overall current smoker prevalence estimate for Brown County (1996-2000) is 23% and the current smoker prevalence estimate for the Northeastern region is 25% (1996-2000). The ratio of Brown County (23%) to the Northeastern Region (25%) is calculated (0.92) for current smokers. This ratio is then multiplied by each regional prevalence subgroup. In this example, 0.92 is multiplied by 29%, which is the Northeastern Region estimate of current smoking prevalence among males, aged 35-64 years. The new adjusted county estimate for this group is 27%. Adjusted prevalence estimates are then entered into the SAMMEC model.

Example calculation of adjusted county prevalence estimates, Brown County

Current smokers	Brown County	Northeastern Region	County: Region ratio	Adjusted county prevalence
Overall prevalence estimate	23%	25%	0.23:0.25=0.92	23% (0.92) = 21%
Male, 35-64 years	**	29%	0.92	29% (0.92) = 27%
Male, 65 years or older	**	9%	0.92	9% (0.92) = 8%
Female, 35-64 years	**	21%	0.92	21% (0.92) = 19%
Female, 65 years or older	**	8%	0.92	8% (0.92) = 7%

With the county prevalence information and the relative risks from smoking, the SAMMEC software program calculates the estimated number of adult deaths in a county due to smoking based on the number of people who died of a specific disease from 1996-2000. We divided the smoking-attributable mortality number by five to obtain an annual average number of smoking-related deaths. If there was less than one death for a specific disease in a county, smoking attributable deaths were not reported.

Years of Potential Life Lost

The SAMMEC model calculates years of potential life lost based on the potential life expectancy of those who died. Smoking-attributable years of potential life lost are the sum of years of life lost from premature deaths caused by smoking. For each Wisconsin county, this estimate is based on county mortality data from 1996 to 2000. The SAMMEC-produced years of potential life lost were divided by five to obtain an annual average estimate of years of potential lives lost for each Wisconsin county.

Economic Impact of Cigarette Smoking

The health-related economic impact of smoking includes estimates of the smoking-attributable direct medical expenditures and indirect productivity losses associated with morbidity (illness) and premature mortality (death). The SAMMEC model calculates the economic costs of smoking using 1998 state personal health expenditure data provided by the Center for Medicaid and Medicare Services. Direct cost estimates include hospitalizations, outpatient care, physician and health professional services, prescription drugs, and nursing homes. Mortality-related productivity costs are the estimated costs of lost future earnings from paid market and unpaid household labor resulting from premature death due to smoking-related diseases. To obtain county-specific economic cost data, medical expenditure and productivity data were both divided by a particular county's population.

Diseases included in Smoking-Attributable Morbidity and Mortality and Economic Costs analysis

Cause of Death	ICD-10
Lung Cancer	C33–C34
Other Tobacco-Related Cancers	
Lip, Oral Cavity, Pharynx	C00–C14
Esophagus	C15
Pancreas	C25
Larynx	C32
Cervix Uteri	C53
Urinary Bladder	C67
Kidney and Renal Pelvis	C64–C65
Heart Disease and Stroke	
Hypertension	I10–I13
Ischemic Heart Disease	I20–I25
Other Heart Disease	I00–I09,I26–I51
Cerebrovascular Disease	I60–I69
Atherosclerosis	I70
Aortic Aneurysm	I71
Other Arterial Disease	I72–I78
Respiratory Diseases	
Pneumonia, Influenza	J10–J18
Bronchitis, Emphysema	J40–J42,J43
Chronic Airways Obstruction	J44

County Prevalence Groupings

Wisconsin Counties

Adams/Juneau/Sauk
Ashland/Bayfield/Iron/Vilas
Barron/Burnett/Chippewa/Clark/Dunn/Pierce/Polk/Rusk/St. Croix/Washburn
Brown
Buffalo/Jackson/Monroe/Pepin/Trempealeau
Calumet/Door/Kewaunee/Marinette/Oconto/Shawano
Columbia – Southern regional data used to approximate county data
Crawford/Grant/Iowa/Lafayette/Richland
Dane
Dodge
Douglas – Northern regional data used to approximate county data
Eau Claire
Florence/Forest/Langlade/Lincoln/Oneida/Portage/Price/Sawyer/Taylor
Fond du Lac
Green – Southern regional data used to approximate county data
Green Lake/Marquette/Waupaca/Waushara
Jefferson – Southern regional data used to approximate county data
Kenosha
La Crosse
Manitowoc
Marathon
Menominee – Northeastern regional data used to approximate county data
Milwaukee
Outagamie
Ozaukee
Racine
Rock
Sheboygan
Vernon – Southern regional data used to approximate county data
Walworth
Washington
Waukesha
Winnebago
Wood

Data Sources:

1. Adult smoking rates are from the 1996-2000 Wisconsin Behavioral Risk Factor Survey, Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information. Smoking is defined as having smoked 100 cigarettes in a lifetime and currently smoking cigarettes on some or every day.
2. The number of adult and youth smoking was determined by multiplying smoking prevalence by Wisconsin's 2000 population. Population estimates are from the 2000 U.S. Census Bureau.
3. High school smoking rates are from the 2001 Youth Risk Behavior Surveillance System, Wisconsin Department of Public Instruction. Smoking is defined as smoking cigarettes on at least one of the past 30 days.
4. Middle school smoking rates are from the 2001 Youth Tobacco Survey, Wisconsin Department of Health and Family Services, Division of Public Health. Smoking is defined as smoking cigarettes on at least one of the past 30 days.
5. Maternal smoking rates are from 2000 Wisconsin birth certificates, Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information.
6. Centers for Disease Control and Prevention. Smoking Attributable Morbidity, Mortality and Economic Costs (SAMMEC): Adult SAMMEC software. Calculation was performed on April 10th and 11th, 2002.
7. Statewide mortality data are from 2000 Wisconsin death certificates and county mortality data are from 1996-2000 Wisconsin death certificates, Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information.
8. Lung cancer and heart disease deaths from environmental tobacco smoke are from U.S. Environmental Protection Agency. *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*. Washington, D.C. Office of Research and Development, Office of Health and Environmental Assessment, 1992.
9. Deaths from cigarette started household fires are from Hall, JR. *The U.S. Smoking-Material Fire Problem*. National Fire Protection Association. Quincy, MA, 2001.
10. Direct health care costs of smoking were calculated using Adult SAMMEC software. The software used 1998 state personal health care expenditure data from the Center for Medicaid and Medicare Services, U.S. Department of Health and Human Services.
11. Orzechowski and Walker, *The Tax Burden on Tobacco: Historical Compilation*, Volume 35, 2000. Arlington, VA: Orzechowski and Walker, 2000.

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County	Smokers								Cigarettes Packs Sold		Economic Impact	
	Adults		High School		Middle School		Pregnant Women		Total Number	Cost	Direct Health	Lost Productivity
	Number	Percent	Number	Percent	Number	Percent	Number	Percent			Care Costs	Costs
Wisconsin	958,780	24%	106,960	33%	21,880	9%	11,428	17%	426,600,000	\$1,335,258,000	\$1,580,000,000	\$1,400,000,000
Adams	3,390	23%	320	33%	60	9%	56	35%	1,480,000	\$4,632,400	\$5,490,000	\$4,870,000
Ashland	2,890	23%	350	33%	70	9%	62	28%	1,340,000	\$4,194,200	\$4,970,000	\$4,400,000
Barron	7,390	22%	1,020	33%	180	9%	104	22%	3,580,000	\$11,205,400	\$13,240,000	\$11,740,000
Bayfield	2,600	23%	330	33%	60	9%	39	28%	1,190,000	\$3,724,700	\$4,420,000	\$3,920,000
Brown	38,560	23%	4,400	33%	900	9%	508	16%	18,040,000	\$56,465,200	\$66,800,000	\$59,190,000
Buffalo	2,280	22%	300	33%	50	9%	24	15%	1,100,000	\$3,443,000	\$4,070,000	\$3,600,000
Burnett	2,690	22%	310	33%	60	9%	31	23%	1,250,000	\$3,912,500	\$4,620,000	\$4,090,000
Calumet	6,380	22%	910	33%	190	9%	51	10%	3,230,000	\$10,109,900	\$11,970,000	\$10,610,000
Chippewa	8,930	22%	1,260	33%	230	9%	146	22%	4,390,000	\$13,740,700	\$16,260,000	\$14,410,000
Clark	5,170	22%	850	33%	160	9%	80	16%	2,670,000	\$8,357,100	\$9,890,000	\$8,760,000
Columbia	8,630	22%	1,080	33%	210	9%	120	19%	4,170,000	\$13,052,100	\$15,460,000	\$13,690,000
Crawford	3,180	25%	430	33%	70	9%	49	27%	1,370,000	\$4,288,100	\$5,080,000	\$4,500,000
Dane	66,050	20%	7,080	33%	1,500	9%	576	10%	33,920,000	\$106,169,600	\$125,640,000	\$111,330,000
Dodge	16,160	25%	1,800	33%	350	9%	174	18%	6,830,000	\$21,377,900	\$25,300,000	\$22,420,000
Door	4,790	22%	530	33%	110	9%	48	21%	2,220,000	\$6,948,600	\$8,240,000	\$7,300,000
Douglas	7,280	22%	820	33%	160	9%	110	21%	3,440,000	\$10,767,200	\$12,750,000	\$11,300,000
Dunn	6,720	22%	770	33%	150	9%	84	17%	3,170,000	\$9,922,100	\$11,740,000	\$10,400,000
Eau Claire	16,400	23%	1,750	33%	340	9%	196	18%	7,410,000	\$23,193,300	\$27,440,000	\$24,310,000
Florence	1,020	26%	100	33%	20	9%	11	31%	400,000	\$1,252,000	\$1,500,000	\$1,330,000
Fond du Lac	19,660	27%	2,070	33%	390	9%	215	19%	7,740,000	\$24,226,200	\$28,660,000	\$25,400,000
Forest	1,950	26%	210	33%	40	9%	36	32%	800,000	\$2,504,000	\$2,950,000	\$2,620,000
Grant	9,460	25%	1,040	33%	200	9%	84	16%	3,940,000	\$12,332,200	\$14,610,000	\$12,950,000
Green	5,440	22%	720	33%	140	9%	84	21%	2,680,000	\$8,388,400	\$9,910,000	\$8,780,000
Green Lake	3,770	26%	410	33%	70	9%	35	16%	1,520,000	\$4,757,600	\$5,630,000	\$4,990,000
Iowa	4,150	25%	510	33%	100	9%	46	17%	1,810,000	\$5,665,300	\$6,710,000	\$5,950,000
Iron	1,270	23%	120	33%	20	9%	8	20%	550,000	\$1,721,500	\$2,020,000	\$1,790,000
Jackson	3,190	22%	370	33%	80	9%	64	27%	1,520,000	\$4,757,600	\$5,630,000	\$4,990,000
Jefferson	13,290	24%	1,500	33%	290	9%	174	19%	5,890,000	\$18,435,700	\$21,800,000	\$19,320,000
Juneau	4,170	23%	530	33%	100	9%	76	28%	1,930,000	\$6,040,900	\$7,160,000	\$6,350,000
Kenosha	39,270	36%	2,980	33%	620	9%	370	17%	11,900,000	\$37,247,000	\$44,060,000	\$39,040,000
Kewaunee	3,290	22%	450	33%	90	9%	44	20%	1,610,000	\$5,039,300	\$5,950,000	\$5,270,000
La Crosse	19,650	24%	2,000	33%	390	9%	166	13%	8,520,000	\$26,667,600	\$31,550,000	\$27,960,000
Lafayette	2,940	25%	400	33%	70	9%	30	17%	1,280,000	\$4,006,400	\$4,750,000	\$4,210,000
Langlade	4,080	26%	430	33%	90	9%	56	27%	1,650,000	\$5,164,500	\$6,110,000	\$5,410,000
Lincoln	5,750	26%	710	33%	120	9%	69	25%	2,360,000	\$7,386,800	\$8,730,000	\$7,740,000

County	Smokers								Cigarettes Packs Sold		Economic Impact	
	Adults		High School		Middle School		Pregnant Women		Total Number	Cost	Direct Health	Lost Productivity
	Number	Percent	Number	Percent	Number	Percent	Number	Percent			Care Costs	Costs
Wisconsin	958,780	24%	106,960	33%	21,880	9%	11,428	17%	426,600,000	\$1,335,258,000	\$1,580,000,000	\$1,400,000,000
Manitowoc	14,830	24%	1,780	33%	340	9%	186	21%	6,590,000	\$20,626,700	\$24,420,000	\$21,630,000
Marathon	22,110	24%	2,740	33%	530	9%	289	19%	10,010,000	\$31,331,300	\$37,070,000	\$32,840,000
Marinette	7,300	22%	920	33%	170	9%	116	25%	3,450,000	\$10,798,500	\$12,780,000	\$11,320,000
Marquette	3,250	26%	290	33%	60	9%	30	21%	1,260,000	\$3,943,800	\$4,660,000	\$4,130,000
Menominee	640	23%	130	33%	30	9%	50	54%	360,000	\$1,126,800	\$1,340,000	\$1,190,000
Milwaukee	180,010	26%	17,750	33%	3,690	9%	2,199	15%	74,780,000	\$234,061,400	\$276,950,000	\$245,400,000
Monroe	6,470	22%	970	33%	180	9%	135	22%	3,250,000	\$10,172,500	\$12,050,000	\$10,680,000
Oconto	5,820	22%	780	33%	160	9%	80	21%	2,830,000	\$8,857,900	\$10,500,000	\$9,300,000
Oneida	7,430	26%	720	33%	140	9%	82	26%	2,920,000	\$9,139,600	\$10,830,000	\$9,600,000
Outagamie	32,600	28%	3,440	33%	710	9%	340	15%	12,800,000	\$40,064,000	\$47,420,000	\$42,020,000
Ozaukee	9,060	15%	1,740	33%	370	9%	65	7%	6,550,000	\$20,501,500	\$24,250,000	\$21,490,000
Pepin	1,230	22%	180	33%	30	9%	14	18%	570,000	\$1,784,100	\$2,120,000	\$1,880,000
Pierce	6,120	22%	740	33%	150	9%	56	14%	2,930,000	\$9,170,900	\$10,840,000	\$9,610,000
Polk	6,710	22%	940	33%	180	9%	109	24%	3,290,000	\$10,297,700	\$12,170,000	\$10,780,000
Portage	13,260	26%	1,340	33%	260	9%	131	16%	5,340,000	\$16,714,200	\$19,790,000	\$17,540,000
Price	3,130	26%	340	33%	60	9%	19	15%	1,260,000	\$3,943,800	\$4,660,000	\$4,130,000
Racine	42,740	31%	3,920	33%	790	9%	508	19%	15,020,000	\$47,012,600	\$55,620,000	\$49,290,000
Richland	3,350	25%	390	33%	80	9%	39	19%	1,430,000	\$4,475,900	\$5,280,000	\$4,680,000
Rock	24,630	22%	3,050	33%	630	9%	423	20%	12,110,000	\$37,904,300	\$44,870,000	\$39,750,000
Rusk	2,540	22%	330	33%	60	9%	46	31%	1,220,000	\$3,818,600	\$4,520,000	\$4,010,000
Sauk	9,400	23%	1,140	33%	240	9%	166	22%	4,390,000	\$13,740,700	\$16,270,000	\$14,410,000
Sawyer	3,200	26%	320	33%	70	9%	55	30%	1,290,000	\$4,037,700	\$4,770,000	\$4,230,000
Shawano	6,650	22%	880	33%	170	9%	109	23%	3,230,000	\$10,109,900	\$11,980,000	\$10,610,000
Sheboygan	16,770	20%	2,300	33%	450	9%	270	19%	8,960,000	\$28,044,800	\$33,180,000	\$29,400,000
St. Croix	10,020	22%	1,380	33%	270	9%	129	14%	5,020,000	\$15,712,600	\$18,600,000	\$16,480,000
Taylor	3,730	26%	480	33%	90	9%	49	20%	1,570,000	\$4,914,100	\$5,800,000	\$5,140,000
Trempealeau	4,440	22%	550	33%	110	9%	52	16%	2,150,000	\$6,729,500	\$7,960,000	\$7,050,000
Vernon	4,480	22%	630	33%	120	9%	63	16%	2,230,000	\$6,979,900	\$8,260,000	\$7,320,000
Vilas	3,840	23%	370	33%	80	9%	43	28%	1,670,000	\$5,227,100	\$6,200,000	\$5,490,000
Walworth	14,220	20%	1,790	33%	360	9%	185	17%	7,460,000	\$23,349,800	\$27,620,000	\$24,470,000
Washburn	2,690	22%	350	33%	60	9%	36	22%	1,280,000	\$4,006,400	\$4,720,000	\$4,190,000
Washington	18,960	22%	2,410	33%	500	9%	190	13%	9,340,000	\$29,234,200	\$34,610,000	\$30,670,000
Waukesha	47,860	18%	7,530	33%	1,540	9%	423	10%	28,690,000	\$89,799,700	\$106,270,000	\$94,170,000
Waupaca	10,050	26%	1,090	33%	220	9%	122	22%	4,110,000	\$12,864,300	\$15,240,000	\$13,500,000
Waushara	4,600	26%	480	33%	90	9%	55	24%	1,840,000	\$5,759,200	\$6,820,000	\$6,040,000
Winnebago	33,440	28%	2,930	33%	590	9%	342	18%	12,470,000	\$39,031,100	\$46,180,000	\$40,920,000
Wood	12,920	23%	1,630	33%	310	9%	196	22%	6,010,000	\$18,811,300	\$22,260,000	\$19,720,000

County	Lung Cancer			Other Tobacco-Related Cancers			Heart Disease and Stroke			Respiratory Disease			All Causes		
	Total	Due to	% Due to	Total	Due to	% Due to	Total	Due to	% Due to	Total	Due to	% Due to	Total	Due to	% Due to
	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking
Wisconsin	2,674	2,150	80%	1,607	580	36%	18,615	2,680	14%	3,624	1,940	54%	45,767	7,350	16%
Adams	18	15	82%	7	3	41%	82	12	15%	12	6	49%	199	36	18%
Ashland	10	8	82%	6	2	38%	81	11	13%	15	7	50%	190	29	15%
Barron	28	23	82%	15	5	31%	187	26	14%	41	20	50%	469	73	16%
Bayfield	13	10	83%	6	2	38%	58	9	16%	12	6	48%	157	27	17%
Brown	84	66	78%	56	16	29%	648	79	12%	111	55	50%	1,555	217	14%
Buffalo	7	6	86%	5	2	33%	63	7	10%	9	4	40%	143	18	13%
Burnett	13	10	83%	6	2	33%	74	10	14%	13	6	46%	185	29	15%
Calumet	13	11	80%	10	3	33%	91	11	12%	21	11	55%	248	36	15%
Chippewa	27	22	81%	18	6	34%	222	28	12%	52	25	48%	526	81	15%
Clark	10	8	82%	9	4	45%	136	18	13%	22	12	54%	319	42	13%
Columbia	31	25	81%	16	25	159%	213	4	2%	36	19	54%	512	73	14%
Crawford	9	7	79%	5	2	33%	81	10	12%	18	11	62%	178	30	17%
Dane	139	108	78%	87	29	34%	929	126	14%	216	103	48%	2,508	366	15%
Dodge	44	37	84%	27	11	39%	365	52	14%	43	23	54%	812	123	15%
Door	15	11	75%	10	3	27%	133	15	11%	19	11	58%	314	40	13%
Douglas	31	25	79%	16	6	34%	194	25	13%	40	20	50%	490	76	15%
Dunn	12	10	81%	9	3	28%	112	15	14%	23	11	49%	270	39	14%
Eau Claire	31	25	80%	20	7	34%	275	37	14%	58	31	53%	669	100	15%
Florence	3	2	92%	2	<1	36%	30	4	13%	2	2	82%	53	8	15%
Fond du Lac	45	36	80%	28	12	42%	375	53	14%	55	32	57%	876	133	15%
Forest	9	7	84%	3	1	40%	48	7	14%	8	5	61%	118	20	17%
Grant	23	19	83%	16	6	36%	213	29	14%	38	20	53%	481	74	15%
Green	14	12	83%	11	3	30%	132	17	13%	37	19	51%	317	50	16%
Green Lake	12	10	82%	6	2	28%	102	11	11%	21	11	52%	237	33	14%
Iowa	9	8	84%	5	2	42%	83	11	13%	15	8	52%	188	28	15%
Iron	6	5	83%	4	2	44%	40	5	14%	6	4	59%	93	16	17%
Jackson	11	9	85%	6	1	17%	88	10	11%	12	7	59%	190	27	14%
Jefferson	39	32	82%	28	10	35%	242	34	14%	49	23	46%	602	98	16%
Juneau	25	21	82%	10	3	35%	105	16	15%	19	10	51%	273	49	18%
Kenosha	80	67	83%	36	15	40%	494	86	17%	106	59	56%	1,175	226	19%
Kewaunee	7	6	82%	7	2	27%	82	8	10%	15	7	47%	184	22	12%
La Crosse	51	42	82%	25	9	37%	341	45	13%	76	39	52%	904	136	15%
Lafayette	10	8	80%	7	2	23%	66	9	14%	15	7	48%	159	26	16%
Langlade	11	10	88%	7	2	22%	94	14	15%	16	9	56%	219	34	16%
Lincoln	18	15	80%	12	5	41%	129	17	13%	26	12	45%	317	48	15%
Manitowoc	46	36	79%	30	11	37%	344	46	13%	67	29	44%	840	123	15%

County	Lung Cancer			Other Tobacco-Related Cancers			Heart Disease and Stroke			Respiratory Disease			All Causes		
	Total	Due to	% Due to	Total	Due to	% Due to	Total	Due to	% Due to	Total	Due to	% Due to	Total	Due to	% Due to
	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking	Deaths	Smoking	Smoking
Wisconsin	2,674	2,150	80%	1,607	580	36%	18,615	2,680	14%	3,624	1,940	54%	45,767	7,350	16%
Marathon	50	38	77%	42	14	35%	326	37	11%	75	36	48%	908	125	14%
Marinette	32	25	79%	16	5	33%	229	29	13%	34	18	51%	501	77	15%
Marquette	14	11	79%	7	2	26%	63	7	11%	15	8	58%	170	28	17%
Menominee	3	2	79%	2	<1	36%	11	1	8%	3	1	46%	41	4	10%
Milwaukee	545	443	81%	317	127	40%	3,565	554	16%	682	364	53%	8,967	1,488	17%
Monroe	21	16	80%	13	5	36%	164	21	13%	36	17	47%	390	59	15%
Oconto	21	16	77%	13	5	38%	142	17	12%	20	11	56%	336	49	15%
Oneida	28	23	80%	16	6	35%	162	22	14%	34	18	54%	404	69	17%
Outagamie	73	58	80%	39	15	38%	443	61	14%	85	46	54%	1,138	180	16%
Ozaukee	34	28	81%	23	7	30%	233	31	13%	39	20	52%	580	86	15%
Pepin	4	3	89%	2	1	36%	35	3	10%	6	3	44%	81	10	13%
Pierce	12	10	80%	7	3	43%	99	13	13%	17	10	56%	240	36	15%
Polk	27	22	80%	12	4	31%	166	21	13%	28	13	47%	389	60	15%
Portage	26	20	79%	15	5	32%	194	27	14%	35	17	48%	451	70	15%
Price	10	9	88%	6	3	43%	86	11	13%	21	11	51%	202	33	16%
Racine	105	89	85%	58	27	46%	598	110	18%	110	63	57%	1,578	288	18%
Richland	7	6	81%	7	2	34%	78	9	11%	18	8	43%	178	25	14%
Rock	90	72	80%	44	17	38%	525	77	15%	133	67	51%	1,320	233	18%
Rusk	9	7	84%	6	3	52%	73	9	13%	16	8	52%	174	28	16%
Sauk	24	19	81%	15	5	34%	204	30	15%	46	21	45%	486	76	16%
Sawyer	13	11	82%	9	3	36%	69	11	16%	15	9	57%	186	34	18%
Shawano	21	17	81%	15	4	26%	217	25	12%	28	17	59%	449	63	14%
Sheboygan	56	43	77%	35	12	33%	420	51	12%	79	38	49%	1,033	144	14%
St. Croix	22	18	81%	12	4	31%	175	24	14%	43	23	52%	438	68	16%
Taylor	8	6	84%	7	2	26%	76	9	12%	16	8	48%	188	25	13%
Trempealeau	11	9	80%	9	2	22%	129	15	11%	22	11	50%	294	37	13%
Vernon	15	12	82%	14	5	38%	147	19	13%	24	11	48%	316	48	15%
Vilas	21	17	81%	9	3	29%	112	16	15%	13	7	55%	261	43	17%
Walworth	47	38	81%	29	11	38%	313	45	14%	68	38	56%	787	133	17%
Washburn	12	9	78%	7	3	40%	77	11	14%	19	11	57%	192	33	17%
Washington	43	37	86%	27	8	30%	331	46	14%	53	28	52%	776	118	15%
Waukesha	153	124	81%	102	39	39%	1,036	155	15%	220	107	49%	2,533	426	17%
Waupaca	34	27	80%	23	8	37%	280	33	12%	60	28	47%	649	97	15%
Waushara	17	14	83%	8	3	34%	104	20	19%	16	8	52%	241	45	19%
Winnebago	79	63	80%	48	18	37%	498	70	14%	94	50	54%	1,226	201	16%
Wood	36	30	81%	22	7	34%	280	34	12%	58	29	51%	691	100	14%